unquestionably far surpassed him as scientific ornithologists, indeed the scientific value of his works is very slight; but hardly any one had such an eye for a species, or could in a dozen words or so point out how it could be recognised. It is no doubt in consequence of this that so few of the species described by him have failed to be considered good by his successors.

The ornithologists of the New World are in one respect very fortunate. They are not encumbered by the enormous dead weight of synonomy that is so burdensome to their brethren of effete Europe; and, thanks to the steadfastness with which the North Americans follow the use of a nomenclature fixed by authority, they will probably be for ever exempt from much of the evil which afflicts the more independent writers of the Old World, almost each of whom likes to be a law unto himself. Whether the nomenclature now accepted in the United States and in Canada be founded on the best principle is a matter that need not be here discussed. It has been reduced to a practice the real advantage of which none can doubt. But that this state of things is possible arises in great measure from the fact that in one sense a very small number of North American birds have an ancient history such as is possessed by nearly all the European species, though of this ancient history the compilers of synonymy in general give but a feeble notion. Few things are more misleading than a long list of synonyms, such as is too often regarded as a test of an author's industry and knowledge. It almost always happens that in a list of this kind bad accounts and good are made to appear as though they stood, as it were, on an equal footing, and it not unfrequently occurs that a reference to the best account of a species may be wholly omitted, while a fantastic name introduced by some compiler or catalogue-maker, who perhaps never examined or even set eyes on a specimen, receives notice as if it were an important contribution to the history of the creature. If Americans suffered from this grievance to the same extent as Europeans do, we suspect that the ingenuity of the former would lead them to find some remedy for it, but they may bless their stars that they are comparatively free from it.

Every well-informed ornithologist knows that the systematic arrangement of birds presents a series of puzzles which as yet defy solution. Still, some steps towards the clearing away of the old trammels have been taken by various persons, and a few positions that may be looked upon as established have been gained. We are sorry to find so little in these volumes suggestive of further advance. The writers seem to be still enchained in the toils which the artificial system of Sundevall drew around the subject, and in the very brief space—barely two pages—thereto devoted, we have "altricial" and "præcocial," "gymnopædic," and "dasypædic" groups spoken of as if they were to be believed in. It is true that the arrangement adopted is said to be "not strictly natural;" but in the same paragraph are some other statements as to affinities or the reverse that we hope the author may live to repent. However we freely admit that the main object of these volumes is not to teach systematic ornithology, and therefore perhaps the less said on that contentious subject the better. They will, there can be no doubt, admirably fulfill the chief purpose for which they are intended, and enormously further the study of birds in English-speaking America. It would be out of place here to enter upon any minute criticism of their contents, and, while indicating in a general way, as we have attempted to do and as we conceive we are in duty bound, some of their shortcomings, we can strongly recommend them as on the whole justifying the high degree of expectation that had prevailed concerning them prior to their publication. Assuredly we shall have to wait long before another so comprehensive and, taking it all in all, so excellent an account of "The Water Birds of North America" is likely to make its appearance, and once more we tender our thanks to each and every one of those who have been concerned in the work, though we may perhaps make a reservation in regard to the wood-engraver.

LETTERS TO THE EDITOR

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.*

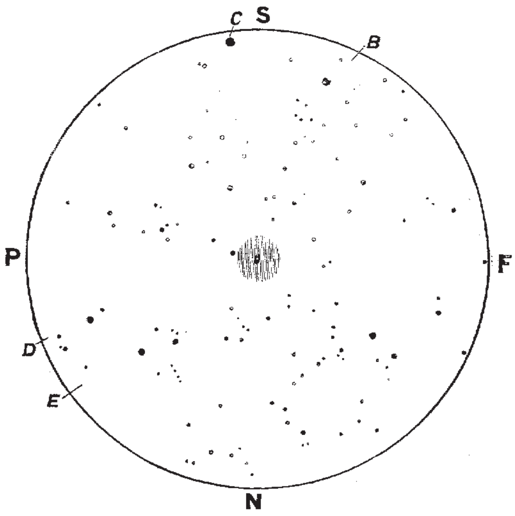
[*The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.*]

The New Star in Andromeda

THE information furnished by a photograph of the Great Nebula in Andromeda taken last year may be of value, particularly in relation to the presumed variability of the new star. An examination shows that no star brighter than about the 15th magnitude was then in the position now occupied by the new star.

This photograph was a trial plate taken on August 16 between 10h. and 11h., with an exposure of 30 minutes of the 3-foot reflector. With this exposure the impression of the nebula is very small for such a bright object as it appears in the telescope, being limited to about 2 minutes of arc around the nucleus (which was bright and round), not much more than is shown on a photograph of the Crab nebula with the same exposure, and not nearly so much as, though a little brighter than, a photograph of the Dumb-bell nebula taken a few days after. A great number of stars are to be seen. A defect in the apparatus then being used for the first time has caused a tilt of the plate and a conse-

FIG. I.



Scale 0·1 inch = 100″.

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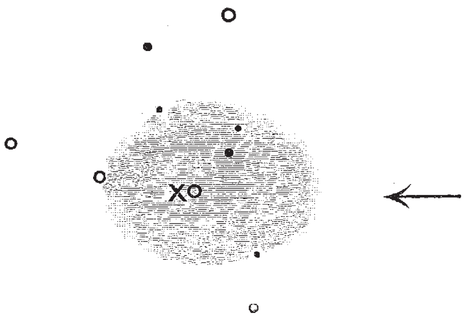
quent want of sharpness on one side, but the definition in the centre of the field is not injured.

To give some idea of the stars that can be seen and the value that may be given to photographic evidence of the existence or non-existence of faint stars, I give some particulars of this photograph. Without a magnifier 124 stars are to be seen within a radius of twenty minutes of arc from the nucleus.

I have traced these (see Fig. 1) so that they can be identified in the telescope; some of them may not be less than 13th magnitude, possibly fainter; the bright stars marked B, C, D, and E being shown in Argelander's maps of the Northern Heavens. B and C are at the present time about the same brightness as the new star, and can be well used to watch any variation in its light (when first seen by me on September 3 the new star was very much brighter than B or C, almost as bright as a star I have called A in my note-book that is just beyond the smaller nebula).

Using a magnifier to detect any fainter stars I find six near the nucleus: these I have shown as black dots on Fig. 2, using a circle to show the stars near the nucleus that appear on Fig. 1, and a cross (×) to indicate the place of the new star. At this particular place there is not the slightest indication of any difference in the regular shading of the deposited silver from the denser part of the nucleus to the faint edge. The six stars indicated are extremely faint in the photograph and difficult to see, but I have no doubt of their real existence; from a comparison with other photographs I estimate them of about 15th magnitude, perhaps fainter. It may be that some of these may be identified at Birr Castle. From the absence of scale and orientation of the sketch given by Lord Rosse on p. 465 comparisons cannot be made, but a reference to the note-books would enable this to be done.
A. A. COMMON

FIG. 2.



Scale 0·4 inch = 100″.

DURING last week I examined on three evenings the spectrum of this star apparently in the nebula. It appears to be continuous, extending from about D, as far as, or perhaps a little past F. Both Mr. Percy Smith and I are able to confirm Lord Rosse's conviction of the existence of a bright line or band. We compared its position with spark spectra, and feel satisfied that its position is not far from the bright line of the spark in air near to, and on the more refrangible side of D. The slit was of course necessarily wide, and the spectrum faint, so that this must only be considered as approximate.

GEO. M. SEABROKE

Temple Observatory, Rugby, September 29

IN the first evenings of September I observed the new nucleus of the nebula in Andromeda: I find it of the 8th magnitude. With a little Maclean's star spectroscope applied to the 10-inch refractor the spectrum of the nucleus is continuous, with suspected brighter bands. On the nights of Sept. 14 to 16, with 340 and 470 enlargements, I found to the east of the nucleus, and 15″ to 18″ distant from it, a faint object, probably a second nucleus, of 12th to 13th magnitudes.
A. RICCO

Palermo Observatory

The Proposed Change in the Astronomical Day

IN your account of the proceedings at the recent meeting of the Astronomische Gesellschaft at Geneva (NATURE, vol. xxxii. p. 517) Dr. Struve is reported to have stated "that in the Royal Astronomical Society the majority were in favour of the universal day." There appears to be some mistake here: the Royal Astronomical Society as a body has not expressed any opinion on the subject. And, judging from the individual expressions of opinion which have been published, I should imagine that here, as at Geneva, the majority of real workers in our science (with the probable exception of those engaged on solar work) would be opposed to the proposed change. But how the majority of the Fellows of the Royal Astronomical Society could vote on the question it is impossible to say. My desire that a wrong impression on this subject, arising from a statement reported to have been made by such a high authority as Dr. Struve, should not be spread abroad, must be my excuse for trespassing thus far on your space.

A. M. D. DOWNING

Royal Observatory, Greenwich, S.E., September 26

A Tertiary Rainbow

PROF. TAIT remarks, in his recently-published work on "Light," that rainbows due to three or more internal reflections "are too feeble to be observed." It may therefore be worth recording that a tertiary bow was clearly visible from Thandiani Hill, Punjab, one evening last week (August 17). The bow extended over an arc greater than a semicircle, but was broken in two places. The colours were as distinct as in many an ordinary bow.

The condition of the sky was specially favourable for seeing a tertiary bow. The sun was low, and on nearly the same level with it there were several horizontal layers of cloud of considerable extent, whose nearer, unilluminated sides were therefore dark enough to serve as a good background for the bow. There was also a cloud in front of the sun itself, partially reducing its brightness.
T. C. LEWIS

August 25

A White Swallow

ON August 3 I saw a white swallow flying among its fellows over a mill-pond at Garioch's Ford, Auchterless, Aberdeenshire. When I repassed on the following day it was still there, and it appeared to my brother and to me to be *entirely* white: otherwise I should suggest that the one seen in Westmoreland on September 4 (NATURE, No. 830, p. 500) might be the same bird on its southward pilgrimage. If it is true that the albino bird is never courted or paired ("Descent of Man," chap. xiv.) we are not likely ever to see many white swallows.

Mirfield, Yorks, September 28 ALEX. ANDERSON

THE enclosed paragraph from Yarmouth, in the *Norfolk News* of this day, will have interest for your correspondent at Milnethorpe.
HUBERT AIRY

Stoke House, Woodbridge, September 26

Rara Avis.—A cream-coloured specimen of the swallow (*Hirundo urbica*) was shot on Caister Road, on Monday morning last, by Mr. A. Patterson. It is now in the hands of Mr. B. Dye of Row 60 for preservation.

DURING the summer of 1883 Mr. Cooper, of Bromwich, observed a white swallow throughout the season at a place within the city on the banks of the Severn.
J. LL. BOZWARD

Worcester, September 28

THE ANNUAL CONGRESS OF THE SANITARY INSTITUTE OF GREAT BRITAIN

THE subjects dealt with by the Sanitary Institute of Great Britain at its annual meetings cover a wide field, and the Leicester gathering of this year, under the presidency of Prof. de Chaumont, F.R.S., forms no exception to the rule. The first aim of the Institute is, through its various agencies, to assist and indeed to lead in the improvement of public health, and the President did well to prove, by mortality statistics, how great a saving of life can be effected by the adoption of efficient sanitary measures, and how remunerative expenditure in this direction proves itself to be. The result of the sanitation carried out in the Army, and which is so much due

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